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## CULTIVATING REFLECTIVE THINKING SKILLS : A GROUNDED THEORY APPROACH

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### Abstract

*Student Teachers' experiences in their pre-service journey are important because these experiences would determine the course of action they would take in their teaching-learning dissemination journey. Thus the present study attempts to expose pre-service teachers to reflective practices and qualitatively observe the changes in their reflective practice. The study explores how B.Ed student's of the batch 2008-09 at K.J Somaiya Comprehensive College of Education & Research move from one level of reflection to another through the reflective thinking sessions conducted by the researcher. The participants of the study comprised of 13 pre-service teachers. The tools used for data collection comprise of writings of participants, researcher and observer; focused group discussion, interviews, observation, memos, reflective diaries of the participants, observer and the researcher, and written assignments of the participants. Research findings are validated through triangulation techniques. The study is a qualitative inquiry and the research methodology adopted is Grounded Theory. This study uses constant comparative method of data analysis which helps discuss the research question. The final part of the paper proposes a theory in order to enable participants to move systematically from one level of reflection to another. The study aims at exposing teacher education planners and policy makers to the need to incorporate the teaching of reflective thinking skills in teacher education programs.*

**Keywords:** *Pre-service teachers, Reflective Thinking, Reflective practices.*

### Introduction

Prospective teachers enter into teacher education programs with beliefs and values about teaching and learning. Teacher educators help students clarify and refine their personal. Coaching reflective practice in teacher preparation is a means by which teacher educators may uncover and confront prospective teachers' personal theories and guide them through the process of conceptual change in learning to become a teacher.

Reflection is an important human activity in which people recapture their experience, think about it, mull it over and evaluate it. It is this working with experience that is important in learning. The capacity to reflect is developed to different stages in different people and it may be this ability which characterizes those who learn effectively from experience. (Boud, Keogh and Walker, 1985, p. 19)<sup>1</sup>

In shifting the way we prepare teachers through reflective thinking, will enable teachers to improve their critical thinking skills. Through this they will be able to analyze, make conclusions and predictions through careful reflection. This provides the opportunity for teachers to challenge the way they think and what they teach. Reflective Thinking enables teachers to investigate, and clarify their own classroom processes, and their individual theories of teaching and learning, instead of relying on some specific method of teaching.

The researcher found that the idea of teaching and enhancing the thinking skills of pre-service teachers in pre-service teacher institutions in India has received little or no attention. Thus the researcher engaged in the design and delivery of a program which seeks to encourage 'the development of competent and reflective professionals'. The Researcher undertook an investigation of reflection, and the manner in which it may be fostered in students during initial preparation for teaching.

In the present study the researcher intended to study how pre-service teachers move from one level of reflection to another and ways to foster reflective thinking skills amongst pre-service teachers. In order to understand the progressive changes within the group the researchers had adopted the grounded theory qualitative approach to the present study. Thus the researcher identified the following research questions:-

Core Question:-

- How can reflective thinking skills be fostered amongst pre-service teachers?

Awareness among Pre-service teachers:-

- What do they know about reflective thinking?
- What are the common obstacles towards reflective thinking did the pre-service teachers face during their practice teaching?

Method:-

- How do pre-service teachers proceed in their reflection?
- What are some of the tools of reflection that are required per stage of reflection?
- What are the different factors that enable students to move from one level of reflection to the other?
- How can pre-service teachers be trained to overcome obstacles through reflective exercise?

Environmental Factors:-

- What are the elements within the practice teaching school and college that support, encourage or inhibit the development of a reflective capacity?
- What role does personal attitude have on their reflective thinking skills?

Changes:-

- How can pre-service teachers benefit through the deliberate act of reflection?
- What changes has the process of reflection had on their attitudes towards reflection?

### **Research Methodology**

The paradigm underlying the present study is that of Constructivism. The understanding or meaning of phenomena, formed through participants and their subjective views, make up this world view. As a result to support this worldview, the researcher undertook grounded theory (Glaser & Strauss, 1990)<sup>ii</sup> approach the qualitative inquiry. For the purpose of this study, grounded theory is defined as theory generated from data systematically obtained and analyzed through the process of; constant comparative method and data reduction and analytical induction. The authors in the present study have tried to systematically develop a theory that would explain the process, action or interactions in the process of enhancing reflective thinking skills amongst pre-service teachers.

### **Participants for the Study**

The participants for the study were theoretically chosen (called theoretical sampling). The researcher had distributed flyers in order to get voluntary participation. Research participants were 13 pre-service teachers, with ages ranging from 21 to 41, who were enrolled for the Bachelor of Education (B.Ed.) (full time) training programme batch 2008-09 at K.J Somaiya Comprehensive College of Education & Research. All the participants had pursued this 1 year full time course. Participant's educational qualifications ranged from completion of graduation to having acquired a master's degree. Out of the total no. of participants, 39% had previous teaching experience.

### **Tools for the Study**

The researcher had used a wide range of tools to collect data. The researcher had conducted 5 interactive

sessions based on several visits “to the field” i.e. the practice teaching schools of the participants, to find more information that continued to add to their levels of reflections exhibited while teaching and to identify the changes in their teaching due to enhancement of reflective capacities in them. For this purpose; the researcher had conducted interactive session for the enhancement of reflective thinking abilities of the participants. For data collection interviews, focused group discussions during and after the reflective teaching sessions by the lead researcher, observational notes and memos of the lead researcher and fellow researcher, participants’ reflective diaries, lead and fellow researchers’ reflective diary, etc were used by the researcher.

### **Triangulation Techniques**

At every stage the researcher used the following triangulation techniques as discussed by Denzin(1970)<sup>iii</sup> to validate the information and in order to increase the internal validity of the findings. They are:-

- Data Triangulation- It involves collection of data over a period of time, from more than one location and from, or about, more than one person.
- Investigator Triangulation- It involves the use of more than one observer for the same object. It can also involve member checks.
- Theory Triangulation- It involves the use of more than one kind of approach to generate categories of analysis.
- Methodological Triangulation- It involves the use of data collection, format of more than one method of obtaining information.

### **Data Analysis Technique for the Study**

One of the reason behind using interview as a method of data collection was to collect data to saturate the categories. A category represents a unit of information composed of events, happenings and instances (Strauss and Corbin, 1990)<sup>iv</sup>. The researcher collected and analyzed observations and documents. While gathering information the research began with the analysis. The researchers’ image for data collection in the present grounded theory was a “zigzag” process: out to the field to gather information, into the room to analyze the data, back to the field to gather more information, into the room, and so forth. The number of passes made to the field depended on whether the categories of information became saturated and whether the theory had elaborated in all its complexity. This process of taking information from data collection and comparing it to the emerging categories is called the constant comparative method of data analysis.

The researcher began with open coding, coding the data for its major categories of information. From this coding, axial coding emerged in which the researcher identified one open coding category to focus on (called the core phenomena), and then went back to the data and created categories around this core phenomena. Strauss & Corbin (1990)<sup>v</sup> prescribe the type of categories identified around the core phenomena. They consist of casual conditions (what factors caused the core phenomena), strategies (action taken in response to the core phenomena), contextual and intervening conditions (broad and specific situational factors that influence the strategies), and consequences (outcomes from using the strategies). These categories relate to and surround the core phenomena in a visual model axial coding paradigm.

The final step, then, was selective coding in which the researcher wrote a story line<sup>vi</sup> that connected the categories. The researcher took the model and developed propositions (or hypothesis) that interrelated the categories in the model or assembled a story that described the interrelationship of categories in the model.

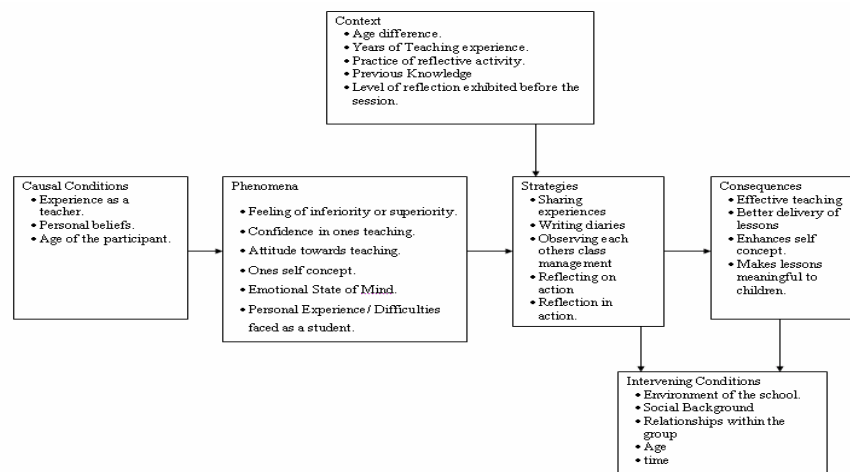
This theory developed by the researcher, is articulated towards the end of the study and can assume a visual picture (Morrow & Smith, 1995)<sup>vii</sup> or series of hypothesis or proposition (Creswell & Brown, 1992)<sup>viii</sup> which will later be explained in the form of a narrative statement (Strauss & Corbin 1990)<sup>ix</sup>, and a visual picture

(Morrow & Smith, 1995)<sup>x</sup> The study is concluded here with the generation of a theory as the goal of the research.

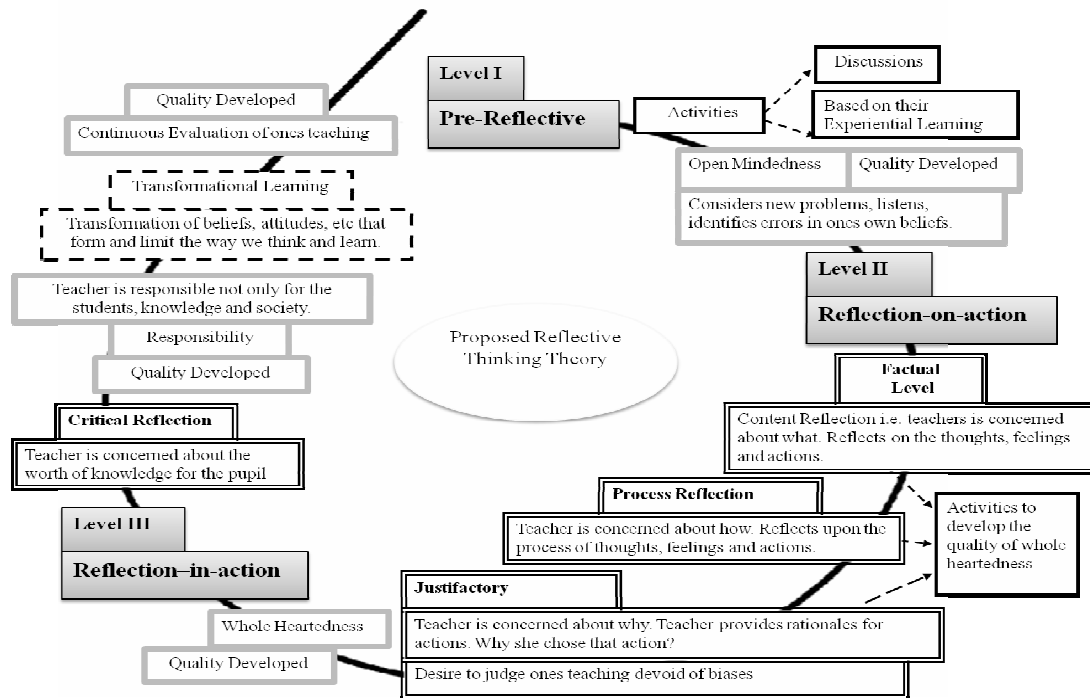
### A bird's eye view of the research design

Data Analysis	Grounded Theory approach (Strauss & Corbin, 1990)	
Open Coding	How can reflective thinking skills be fostered amongst pre-service teachers?	
Axial Coding	<i>Causal Conditions</i>	<ul style="list-style-type: none"> <li>• Experience as a teacher.</li> <li>• Personal beliefs.</li> <li>• Age of the participant.</li> </ul>
	<i>Strategies</i>	<ul style="list-style-type: none"> <li>• Sharing experiences</li> <li>• Writing diaries</li> <li>• Observing each others class management</li> <li>• Reflecting on action</li> <li>• Reflection in action.</li> </ul>
	<i>Intervening Conditions</i>	<ul style="list-style-type: none"> <li>• Environment of the school.</li> <li>• Social Background</li> <li>• Relationships within the group</li> <li>• Age</li> <li>• Time</li> </ul>
	<i>Consequences</i>	<ul style="list-style-type: none"> <li>• Effective teaching</li> <li>• Better delivery of lessons</li> <li>• Enhances self concept.</li> <li>• Makes lessons meaningful to children.</li> </ul>
Selective Coding	Epilogue – Story line	
Theory	Generation of a theoretical model for enhancing reflective thinking.	

Information from this coding phase was then organized into a figure, a coding paradigm, that presented a theoretical model of the processes under study.



In the present study the researcher proposes the following theory in order to enable participants to move systematically from one level of reflection to another.



### Level I - Pre-Reflective Thinking

Non-reflective practitioners consider knowledge as certain and the only perceived truth or reality. Their answers or solutions will not display any form of reasoning. (King and Kitchener, 1994)<sup>xi</sup>

The first major challenge for developing higher levels of reflection is to be able to first comprehend the true meaning of reflection. In order to set the stage for reflective thinking for pre-service teachers it is very important that participants what reflective thinking is? Thus certain activities must be introduced which will set the stage for reflective thinking.

*Activities-* To enable participants to recognize the benefits of reflection the facilitator can introduce activities like discussions, observations, sharing of experiences, written assignments, etc. Through these activities the participants will become aware about the different problems faced by their colleagues, their innovative ways of teaching, etc.

*Open Mindedness-* The regular practice of the above exercise develops the quality of open mindedness. Open-mindedness according to Dewey(1933)<sup>xii</sup> is one of the prerequisite attitudes that must be present for a person to become reflective. It is defined as the ability to consider new problems and ideas free from prejudice and an active desire to listen to more sides, thereby enabling one to recognize the possibility of error even in the beliefs that are dearest to the participants.

### Level II - Reflection – on – action

Reflection-on-action is the next level that the facilitator must focus on in order to guide participants to wards the higher levels of reflective thinking. Reflection-on-action is seen as ‘the systematic and deliberate thinking back over one’s actions...teachers who are thoughtful about their work’ (Russell and Munby, 1992, p. 3)<sup>xiii</sup>. For the systematic development of this stage the researcher has further divided it into 3 stages, they are: factual level, process reflection and justifactory. Thus it will enable participants to move slowly and

steadily towards the perfection/achievement of the second stage. In each stage the researcher should introduce various complex activities.

*Factual Stage-* Once the facilitator is successful in developing the quality of open mindedness the facilitator should then draw the participants focus on facts associated with procedural steps. Here the participant is concerned with what has occurred in a teaching situation or what may occur in the future.

*Process Reflection-* After having thought about the ‘what’ of ones teaching the facilitator should now encourage the participants to reflect upon the ‘how’ of their teaching. It entails that the participants reflect/mull upon the processes of perceiving, thinking, feeling or acting. Thus gradually the researcher should start including activities to facilitate deeper reflection.

*Justifactory-* Here the participants would provide rationales for actions. The discussion would revolve around questions of why they did what they did, why they did it in that manner, and why they chose that action with those particular students.

*Whole Heartedness-* is the next prerequisite attitudes that must be present for a person to become reflective. According to Goodman (1991), Dewey’s whole-heartedness refers to one’s internal strength and their desire to be a reflective educator regardless of any personal cost.

### **Level III - Reflection – in – action**

The participants having developed the trait to judge ones actions very critically can proceed towards the third level which is Reflection-in-action. According to Schon(1983)<sup>xiv</sup>, Reflection-in-action suggests not only that we can think about doing but that we can think about doing something while doing it. However for the systematic development of this level the next stage plays an important role.

*Critical Reflection –* It is the highest level of reflection to be attained. Here participants are concerned with worth of knowledge and ask themselves several questions such as what were the strengths of the lesson, what should be changed, and was the content covered important to the students? Critical reflection includes, not only questioning how to teach, but also why specific ways of thinking and questioning are part of the reflective process and not others. This stage is marked by in-depth reflective activities.

*Responsibility-* The critical judgments about ones own teaching will develop the nest prerequisite attitude i.e. responsibility which according to Dewey (1933) is, to be intellectually responsible is to consider the consequences of a projected step [and to] be willing to adopt these consequences when they follow reasonably from any position already taken...(p. 32). Responsible teachers question why they are doing what they are doing and always consider the educational, psychological, and larger social context and implications of classroom life.

*Transformational Learning-* Once the participants endorse themselves with great responsibilities they realize the implications of their actions upon their students. As a result of critical reflection it contributes towards transformational learning. It refers to a learning process that results in the transformation of beliefs, attitudes, assumptions, and the [perceptual](#) and conceptual codes that form and limit the way we think and learn. Thus critical reflection is a crucial aspect of reflective practice because teaching is a complex activity; and solutions to teaching problems are often not found because practitioners fail to examine their own perceptions, or premises. (Mezirow, 1991)<sup>xv</sup>

*Continuous Monitoring and Evaluation of Ones Teaching -* The practitioner reaches the highest level of reflection and begins to examine errors in their own belief, attitudes, assumptions; evaluate them and changes in order to be effective teachers. They develop the most important quality required for an effective practitioner which is continuous monitoring and evaluation of ones teaching.

### Limitations of the Study.

The present study was due to time constraints was limited to a small group of participants who had volunteered for the sessions on enhancing reflective thinking skills. The researcher followed a qualitative approach and had a grounded design to the study thus there are limitations in this study concerning issues of generalizability.

First, Due to the small sample size, results will not be generalized to the other pre-service teacher populations. Second, participation levels of reflection might be influenced by their readings, other coursework, maturation, etc. These might also have an impact on levels of critical reflection during the course of this study. The written assignment provided to the participants and the themes for the activities selected were strictly followed. These themes were deliberately selected as they would encourage participants to move towards higher levels of reflection.

Due to time constraints the number of sessions held with the participants was limited to equip all participants with the skills of reflective thinking ability. It is hard to generalize from findings based on such a small number, even though content analysis of their writing and discussions offers rich and extensive data for understanding; how can reflective thinking skills be fostered amongst pre-service teachers.

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